



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

647.3912

Job Sheet 171196



Part No: 647.3912

Job Qty: 4 ea

Part Name: Breakaway Tip Wirestrike for Wire Strike



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/30/18

Job Tracking No:

Due Date: 2/28/18

Created By: Michelle Gagnon-Donovan

Type: Stock

Description:

Note: DWG REV C2 SHEETS 1, 4, 7 IPP REV.A NEW ISSUE JFS 14/05/29 VERIFIED BY:DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	4 Ea		2/27/18	0.00	0.00	Start Up Machining-1		
100	Bandsaw	4 pcs		2/27/18	0.00	0.00	Bandsaw1		
110	CNC Vertical Machining	4 pcs		2/28/18	0.00	4.71	HAAS1-5		
120	QC	4 pcs		2/28/18	0.00	0.00	QC2 Machining-1		
130	QC	4 pcs		2/28/18	0.00	0.00	QC8 Machining-1		
140	Outsource	4 pcs		2/28/18	0.00	0.00	Outsource4		
150	Packaging	4 pcs		2/28/18	0.00	0.00	Packaging2		
155	QC	4 pcs		2/28/18	0.00	0.00	QC5		
180	Packaging	4 pcs		2/28/18	0.00	0.00	Packaging3-1		
190	QC21-SA	4 Ea		2/28/18	0.00	0.00	QC21		

Part Op 100 - Cut Blank at 20.000" *** ONE BLANK MAKES TWO PARTS***

Descriptions: 110 - 1-Machine per folio FB309 DWG REV: FOLIO REV: 2- deburr and break all sharp edges

140 - Issue P/O to ATG : 1- Black Anodize as per Dwg 647.3900 2- PRIME AS PER DWG, SEE NOTE #9
Certification of Conformity is required

180 - ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

5030140

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M7075T6B0.375X6.000	7075-T6 Plate 0.375" X 6.000", QQ-A 250/12	3.3360 ft (.834 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M7075T6B0.375X6.000	3	0	0

Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Lower Deflector	29.900degrees ± 0.500	30.400 29.400	angle	
2	Lower Deflector	0.753inches ± 0.005	0.758 0.748		
3	Lower Deflector	0.130inches ± 0.005	0.135 0.125		
4	Lower Deflector	45.000degrees ± 0.500	45.500 44.500	angle	
5	Lower Deflector	0.380inches ± 0.005	0.385 0.375		
6	Lower Deflector	0.753inches ± 0.005	0.758 0.748		
7	Lower Deflector	0.340inches + 0.000 - 0.002	0.340 0.338		
8	Lower Deflector	0.100inches ± 0.005	0.105 0.095		
9	Lower Deflector	45.000degrees ± 0.500	45.500 44.500	angle	
10	Lower Deflector	0.350inches + 0.000 - 0.002	0.350 0.348		
11	Lower Deflector	0.271inches ± 0.005	0.276 0.266		
12	Lower Deflector	0.705inches ± 0.005	0.710 0.700		
13	Lower Deflector	1.533inches ± 0.005	1.538 1.528		
14	Lower Deflector	0.749inches ± 0.005	0.754 0.744		
15	Lower Deflector	0.194inches + 0.005 - 0.001	0.199 0.193	diameter	
16	Lower Deflector	0.065inches ± 0.005	0.070 0.060		
17	Lower Deflector	0.133inches ± 0.005	0.138 0.128		
18	Lower Deflector	7.422inches ± 0.005	7.427 7.417		
19	Lower Deflector	0.177inches + 0.005 - 0.001	0.182 0.176	diameter	
20	Lower Deflector	0.915inches ± 0.005	0.920 0.910		
21	Lower Deflector	2.110inches ± 0.002	2.112 2.108		
22	Lower Deflector	4.220inches ± 0.002	4.222 4.218		
23	Lower Deflector	0.320inches ± 0.005	0.325 0.315		
24	Lower Deflector	33.400degrees ± 0.500	33.900 32.900	angle	
25	Lower Deflector	43.700degrees ± 0.500	44.200 43.200	angle	

Plex 1/31/18 9:48 AM Dart.Gagnon.Michelle

DART
AEROSPACE

1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 813 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S105693



Part: 647.3912

Job No: 171196

Serial No/Batch: S105693

Revision:

Inspector:

Exp Date:

Instructions:

Date: 08/28/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

DART AEROSPACE APICAL INDUSTRIES, INC. dba DART AEROSPACE	ENGINEERING CHANGE NOTICE NO. 04948				SHEET 1 OF 2	
	DWG NO. 647.3900		REV: C	PREPARED BY: M. ANDECK	DATE: 05/04/15	EFFECT ON DWG ☐ INC. ☒ UNINC.
	DWG TITLE: DEFLECTORS					
	APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: CURRENT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED TOLERANCE AND NOTES				ECR: D-15-01

NOTES:

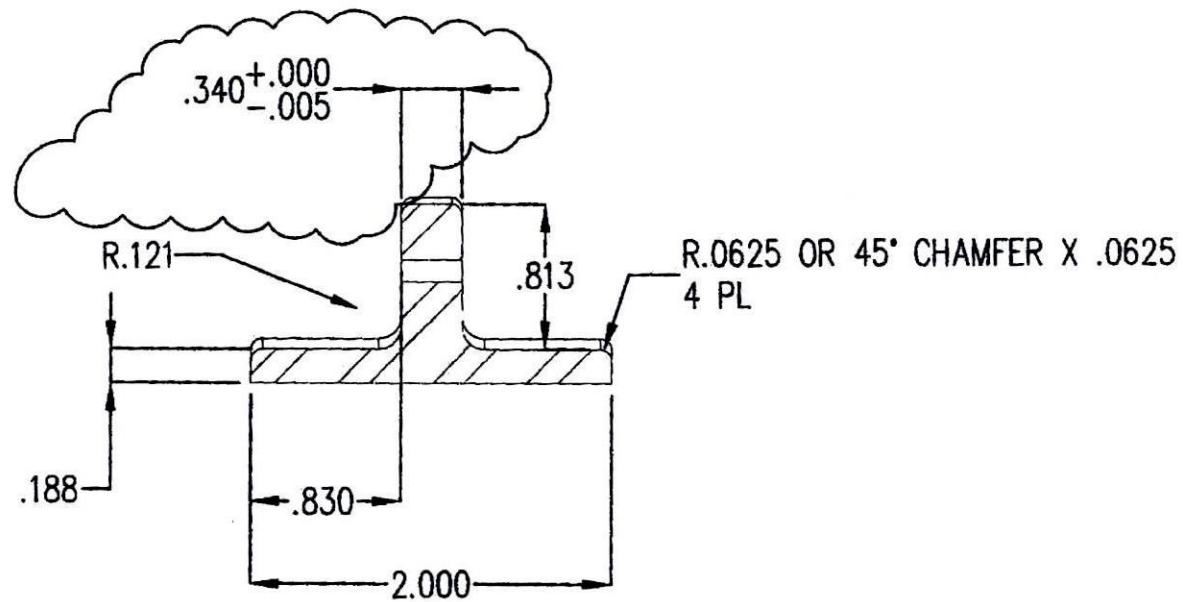
- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
- 5 APPLY F/N 3 AS REQUIRED TO ALL FAYING SURFACES OF F/N 6, 7 & 8 UPON ASSY.
- 6 MAXIMUM OR MINIMUM DIMENSION AFTER FINISH.
7. .0625 HOLE MAY BE ADDED FOR FINISHING PURPOSES
- 8 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.
- 9 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX.
- 10 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 171196 *cmf*

JAN 31 2018

SHEET 1, ZONE B1 IS:

11	R	647.3917	2			DOUBLER		
F/N	TC	PART NUMBER	.3903	.3902	.3901	DESCRIPTION	MATERIAL	SPECIFICATION
			QTY					
DOCUMENTS EFFECTED:						CHANGE CATEGORY	DER REVIEW REQUIRED	
☐ PATTERN ☐ MDL ☐ INSTALL INSTRU ☐ ICA ☒ BOM						☐ MAJOR ☒ MINOR	☐ YES ☒ NO	



SECTION AT-AT

SHEET 11, ZONE C1 IS:

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

04556

SHEET 1 OF 2

DWG NO. 647.3900

REV: C

PREPARED BY D. MEJIA

DATE: 06/10/2014

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: DEFLECTORS

APPROVED BY: ENGR

MFG QC

EFF. NEXT ORDER

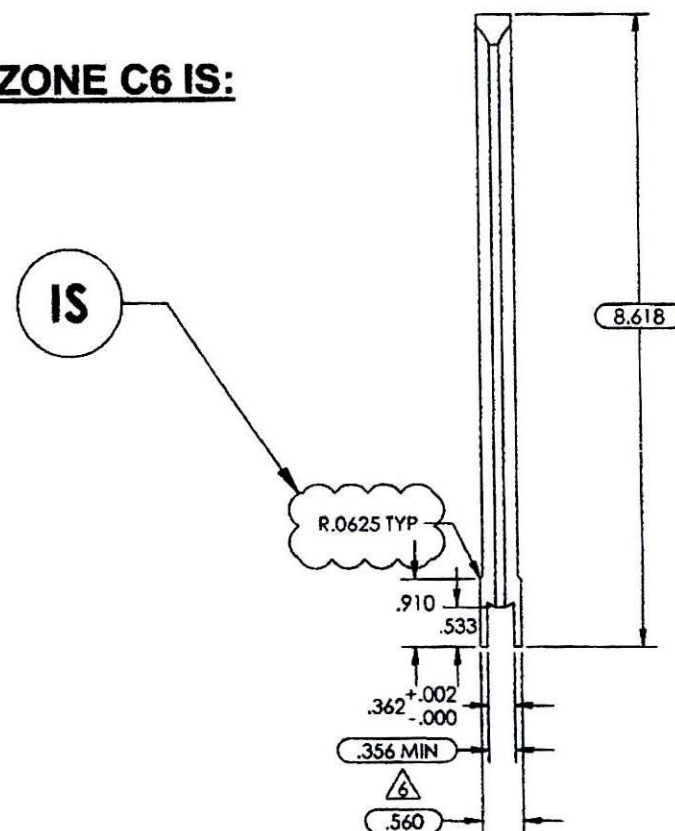
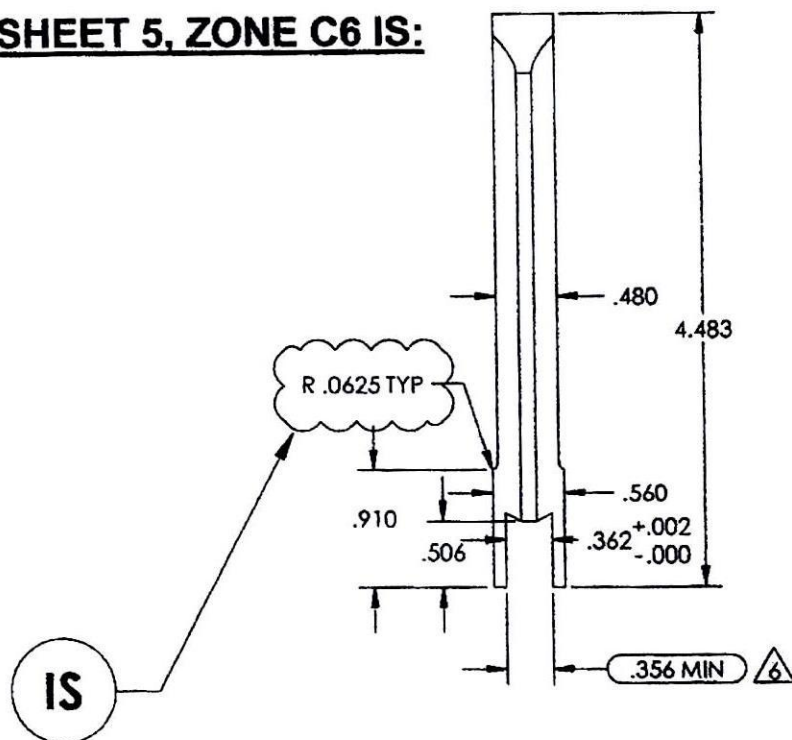
TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

REASON: CHANGED P/N, DIMENSIONS & REVISED BOM

ECR: D-14-04

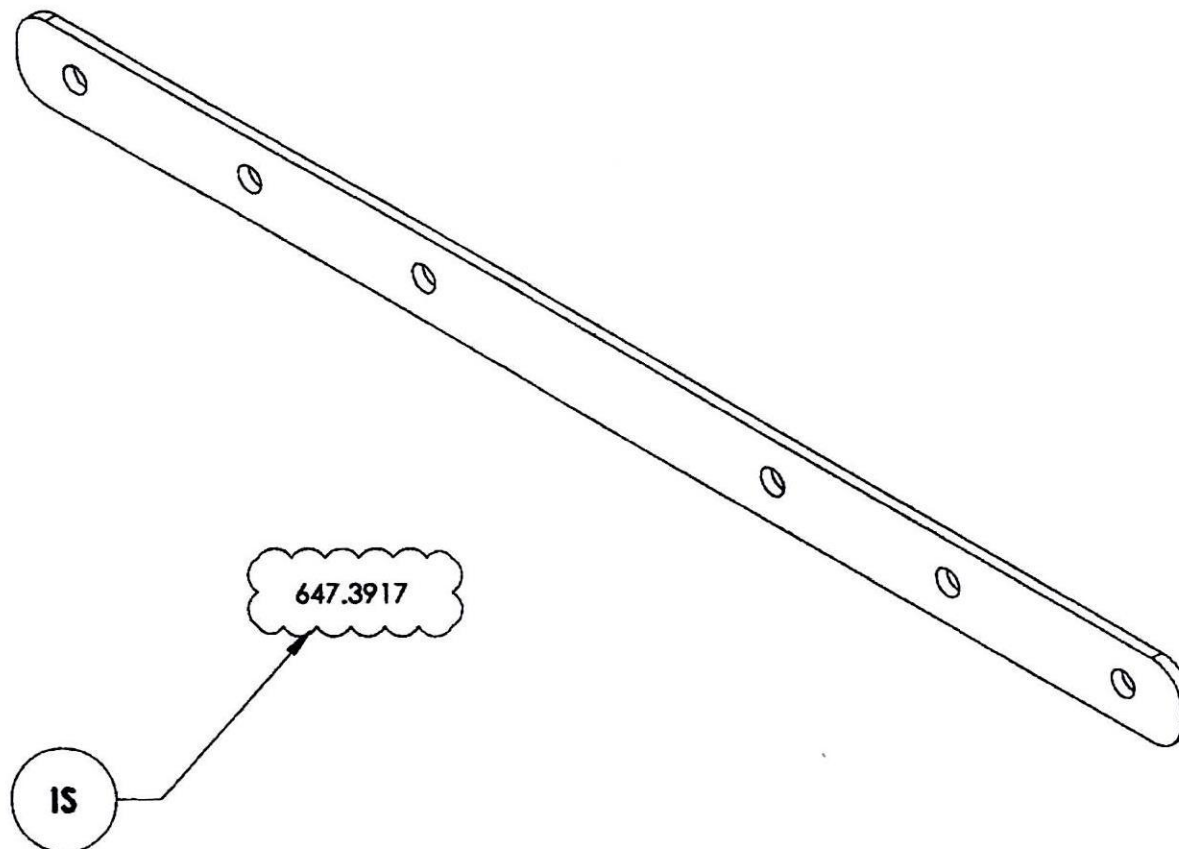
SHEET 5, ZONE C6 IS:

SHEET 6, ZONE C6 IS:



SHEET 1, BOM IS:

11	R	647.3917	2		DOUBLER		
F/N	TC	PART NUMBER	QTY		DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:						CHANGE CATEGORY	DER REVIEW REQUIRED
☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☒ BOM						☐ MAJOR ☒ MINOR	☐ YES ☒ NO

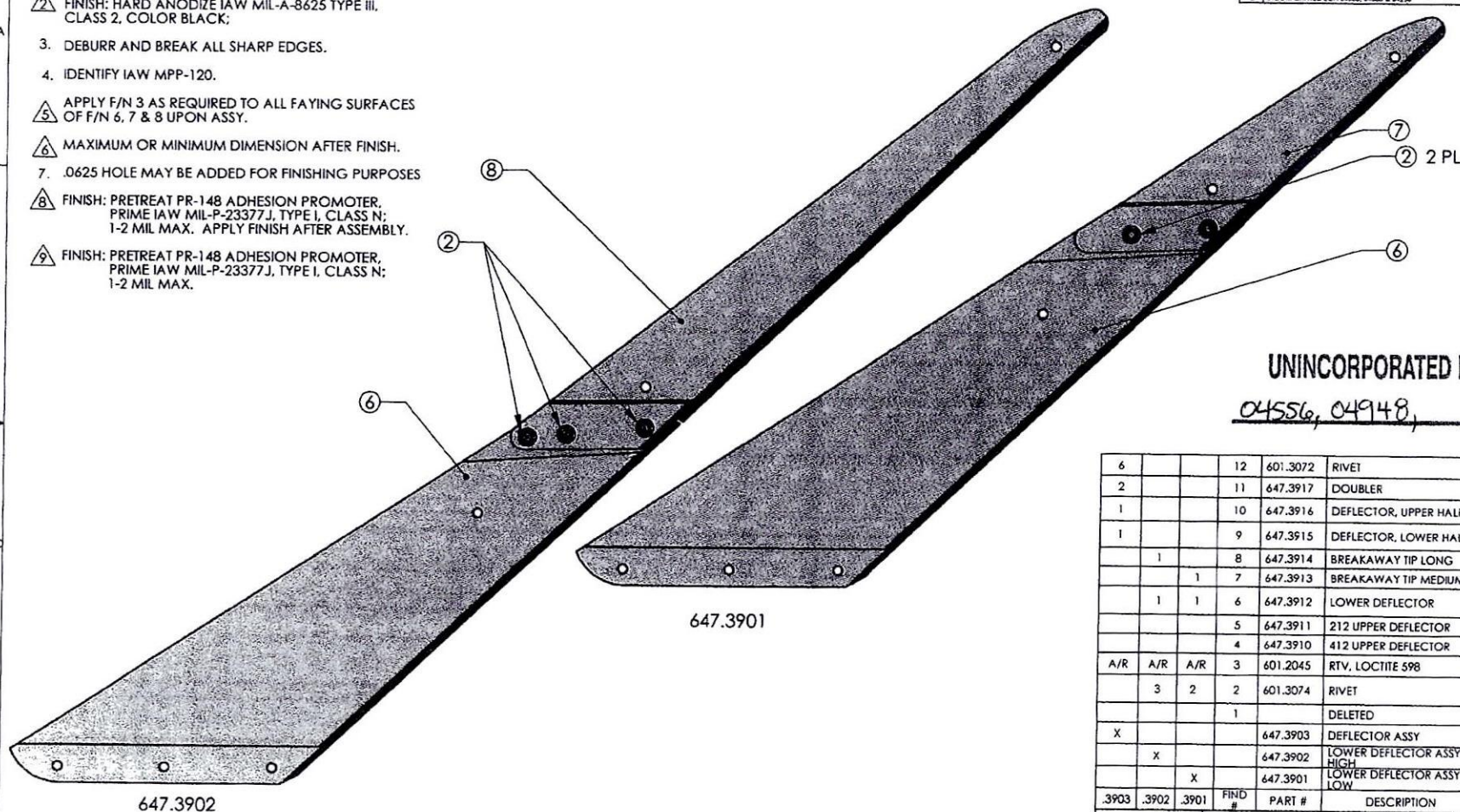
SHEET 12, ZONE B5 IS:

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
- 5 APPLY F/N 3 AS REQUIRED TO ALL FAYING SURFACES OF F/N 6, 7 & 8 UPON ASSY.
- 6 MAXIMUM OR MINIMUM DIMENSION AFTER FINISH.
7. .0625 HOLE MAY BE ADDED FOR FINISHING PURPOSES
- 8 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.
- 9 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX.

REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE RELEASE: P81		N/C
N/C	INITIAL RELEASE	09/10/09	P. BRAYO
A	INCORPORATED ECN 02844, 03039 & 03515	07/24/12	P. BRAYO
B	INCORPORATED ECN 04025	08/02/13	P. BRAYO
C	INCORPORATED ECN 04028, 04085 & 04230	11/18/13	P. BRAYO

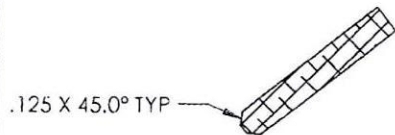


UNINCORPORATED ECN(s)

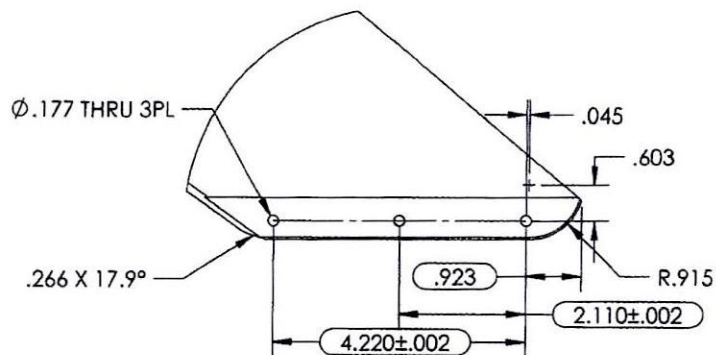
04556, 04948,

6			12	601.3072	RIVET	CR3213-6-9	
2			11	647.3917	DOUBLER		
1			10	647.3916	DEFLECTOR, UPPER HALF	△	△
1			9	647.3915	DEFLECTOR, LOWER HALF	△	△
	1		8	647.3914	BREAKAWAY TIP LONG	△	△△
		1	7	647.3913	BREAKAWAY TIP MEDIUM	△	△△
	1	1	6	647.3912	LOWER DEFLECTOR	△	△△
			5	647.3911	212 UPPER DEFLECTOR	△	△△
			4	647.3910	412 UPPER DEFLECTOR	△	△△
A/R	A/R	A/R	3	601.2045	RTV, LOCTITE 598		△
	3	2	2	601.3074	RIVET	MS30470AD-6-12	
			1		DELETED		
X				647.3903	DEFLECTOR ASSY		△
	X			647.3902	LOWER DEFLECTOR ASSY HIGH		
		X		647.3901	LOWER DEFLECTOR ASSY LOW		
.3903	.3902	.3901	FINO #	PART #	DESCRIPTION	MATL	SPEC
QTY							
NEXT ASSY (S)				PARTS LIST			
647.3800				APICAL INDUSTRIES			
				2608 TEMPLE HEIGHTS DR.			
				OCEANSIDE, CA. 92056-3512 (760)724-5300			
				DEFLECTORS			
				REV. C			
				647.3900			
				SCALE NONE			
				SHEET 1 OF 12			

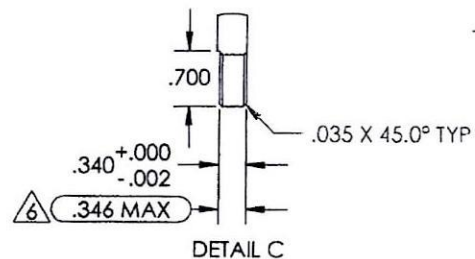
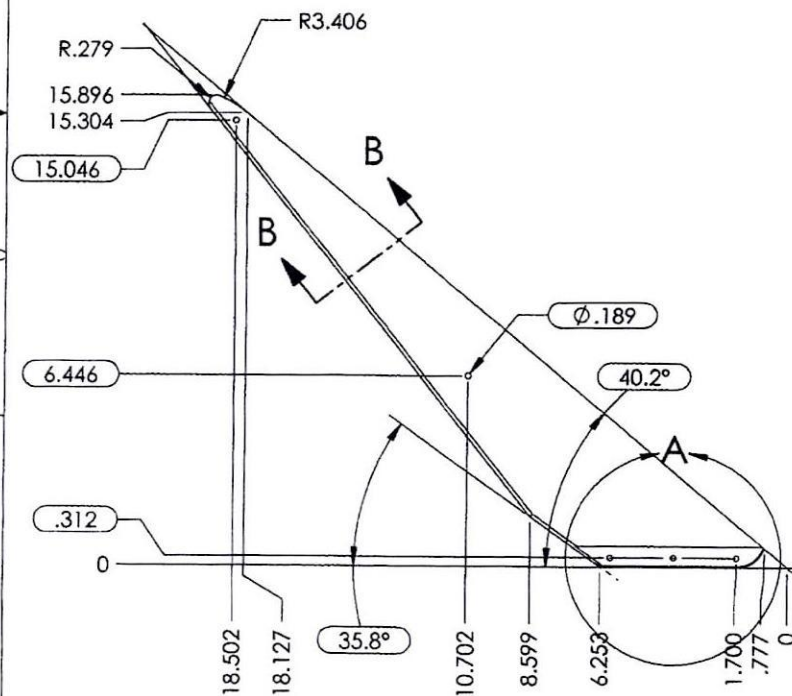
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



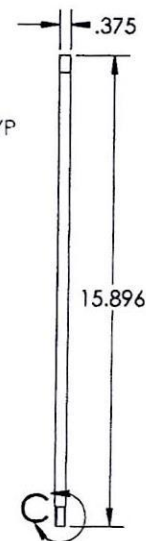
SECTION B-B



DETAIL A



DETAIL C



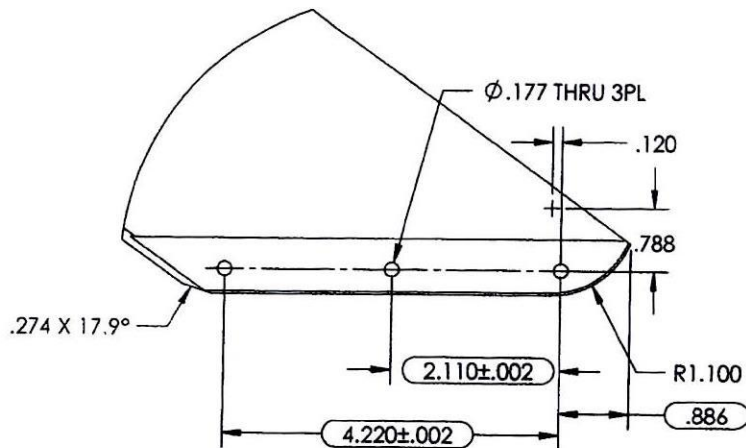
647.3911

ORIGINAL DATE 10/04/01		APICAL INDUSTRIES	
DRAWN BY D. SCHUR		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY D. BARBER		DEFLECTORS	
DRAWING APPROVAL P. BRAY 01/10/02		SHEET B	REV C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ±.01 2 PLACE DECIMALS ±.005 ANGLES ±.5°		DWG. NO. 647.3900	SCALE NONE
		SHEET 2 OF 12	

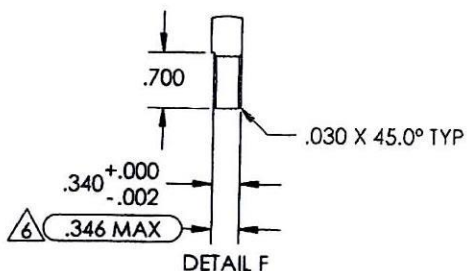
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

.125 X 44.9°

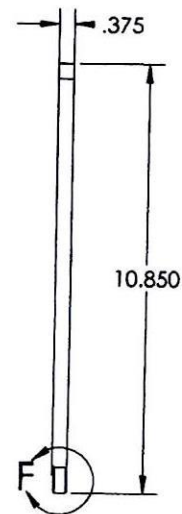
SECTION E-E



DETAIL D



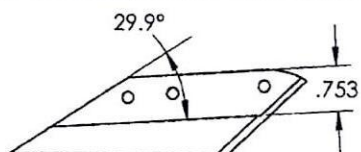
DETAIL F



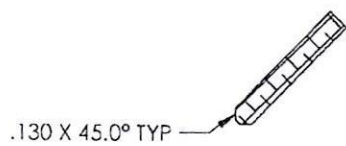
647.3910

ORIGINAL DATE: 08-10-89		APICAL INDUSTRIES	
DRAWN BY: D. SCHUP		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: J. B. FRIER		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL: P. BRAYO		DEFLECTORS	
CONTRACT NO.:		REV: C	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SER: B	DWG. NO. 647.3900
		SCALE: NONE	SHEET 3 OF 12

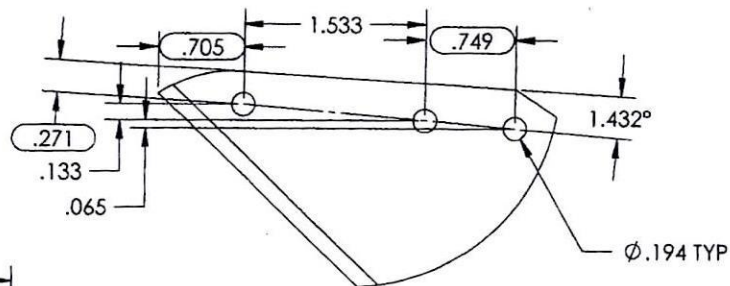
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



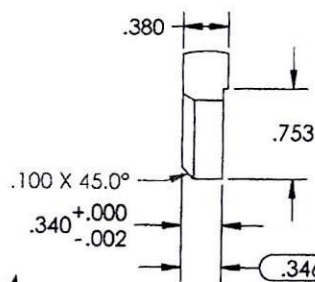
SECTION L-L



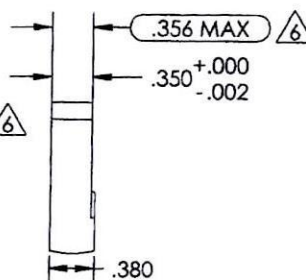
SECTION M-M



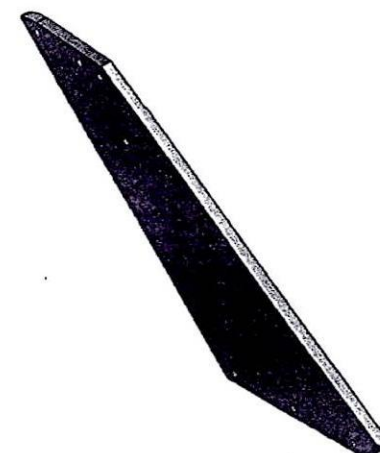
DETAIL H



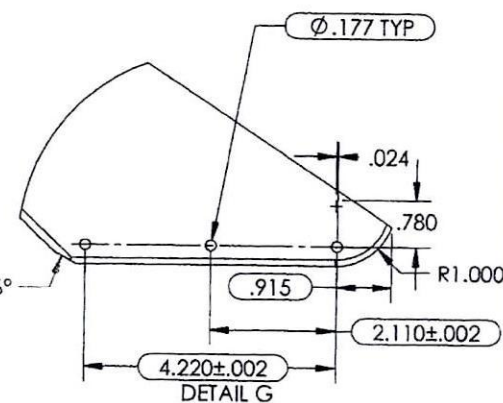
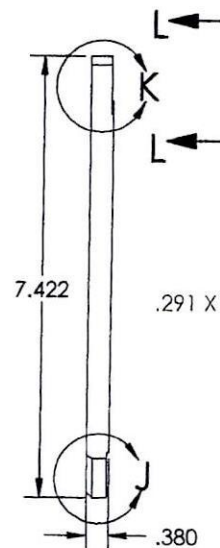
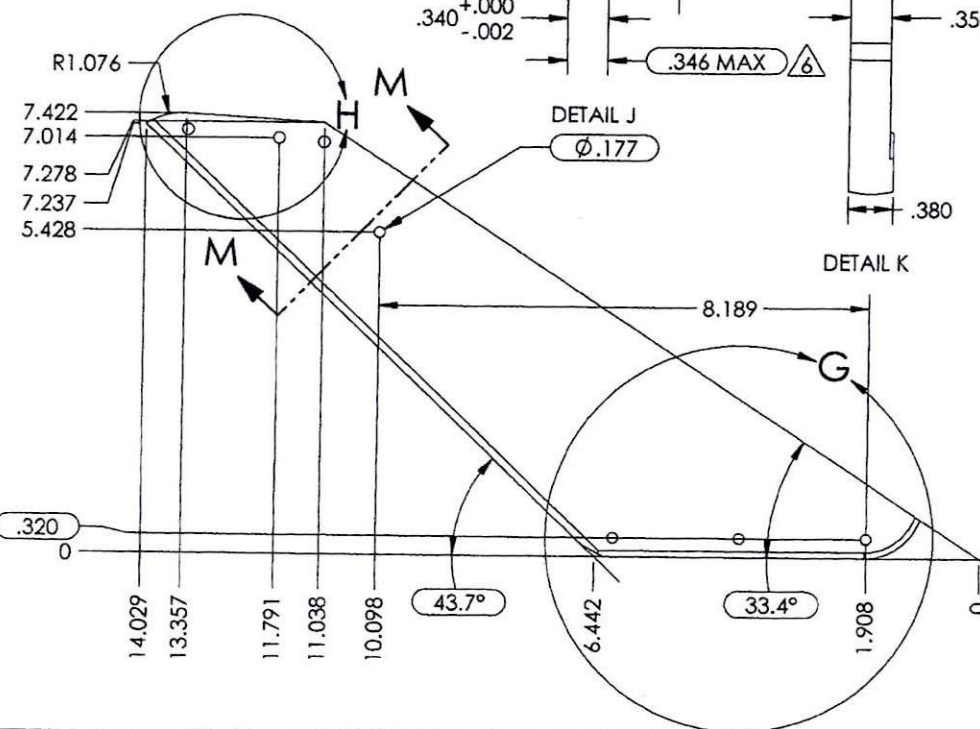
DETAIL J



DETAIL K



647.3912

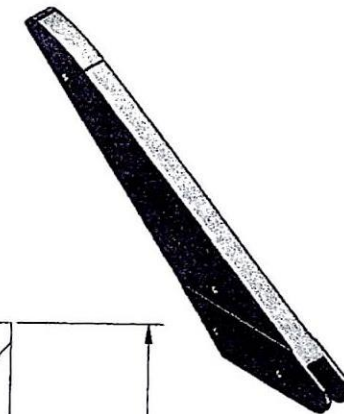
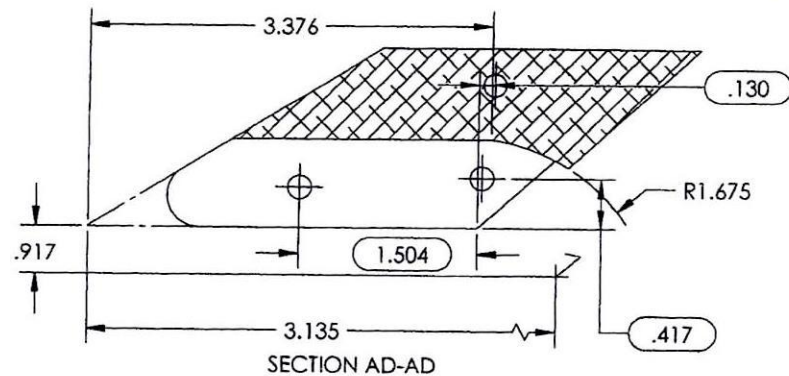


ORIGINAL DATE 10-01-99		APICAL INDUSTRIES	
DRAWN BY D. BARKER		2608 TEMPLE HEIGHTS DR.	
CHECKED BY D. BARKER		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
CONTRACT NO.		647.3900	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.01 ANGLES ±.5°		SCALE NONE	SHEET 4 OF 12

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

.180 X 45.0° TYP

SECTION N-N



647.3913

R.269

R3.534

4.483

3.696

Ø.189 THRU 2PL

Ø.194 THRU 2PL

1.196

.506

.337

0

R.264

41.9°

31.4°

8.007

7.749

7.036

6.618

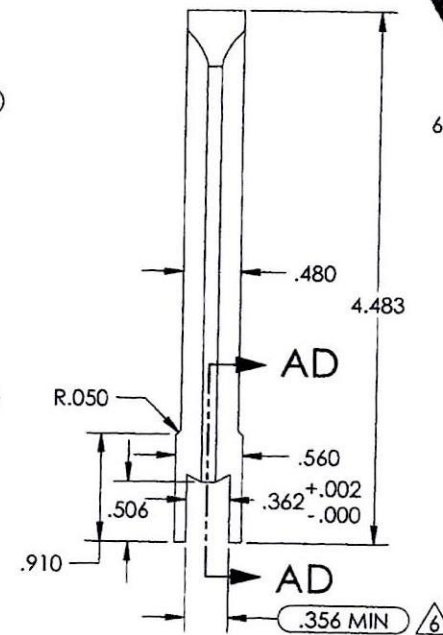
4.029

3.414

3.284

1.780

0

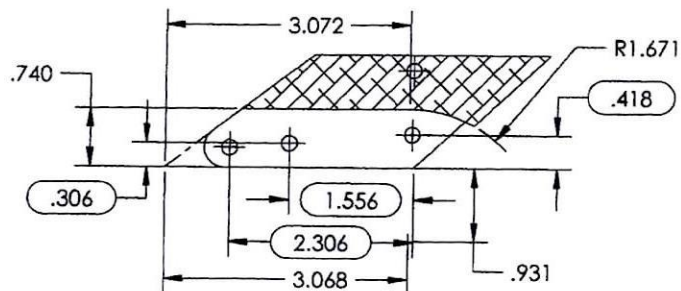


ORIGINAL DATE 10/25/10		APICAL INDUSTRIES	
DRAWN BY D. SCHUR		2608 TEMPLE HEIGHTS DR.	
CHECKED BY D. BARKER		OCEANSIDE, CA. 92056-3512	
DRAWING APPROVAL P. BRAVO		(760) 724-5300	
CONTRACT NO.		DEFLECTORS	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS .001 2 PLACE DECIMALS .005 ANGLES ± .5°		SEE CAGE CODE B 07M16	DWG. NO. 647.3900
		SCALE NONE	REV C
		SHEET 5 OF 12	

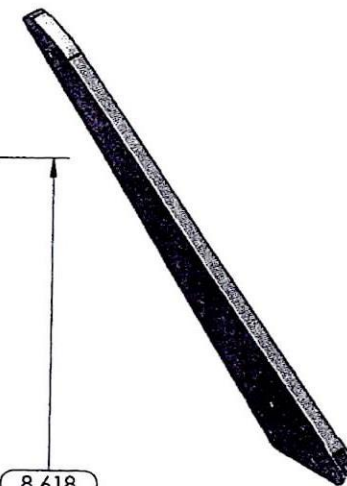
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

.175 X 45.0° TYP

SECTION T-T



SECTION AB-AB



647.3914

8.618

R.050 TYP

.910

.533

.362^{+.002}_{-.000}

.356 MIN

.560

R.255

6

.824

3.123

3.129

3.875

42.83°

37.1°

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

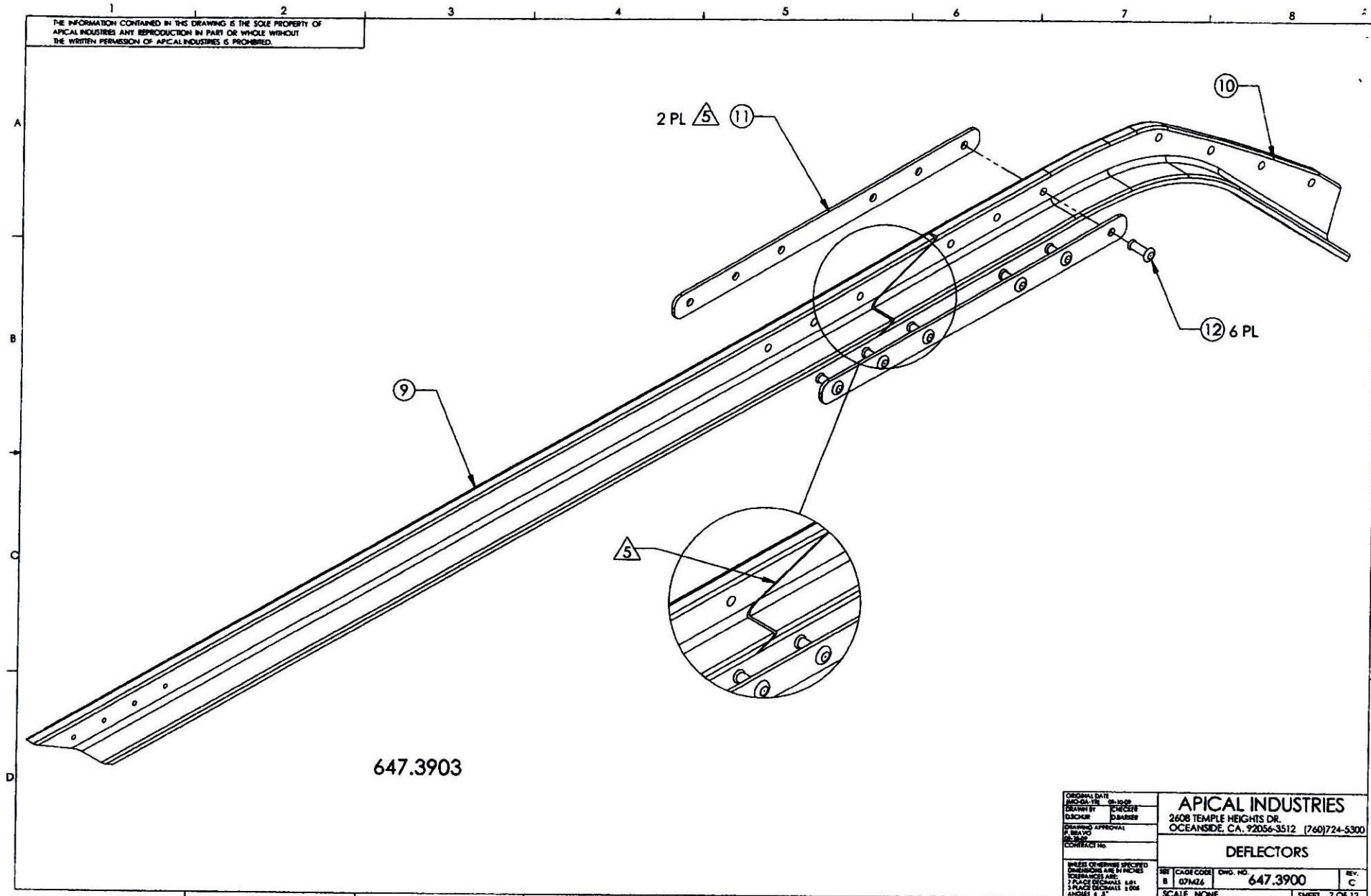
0

0

0

0

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

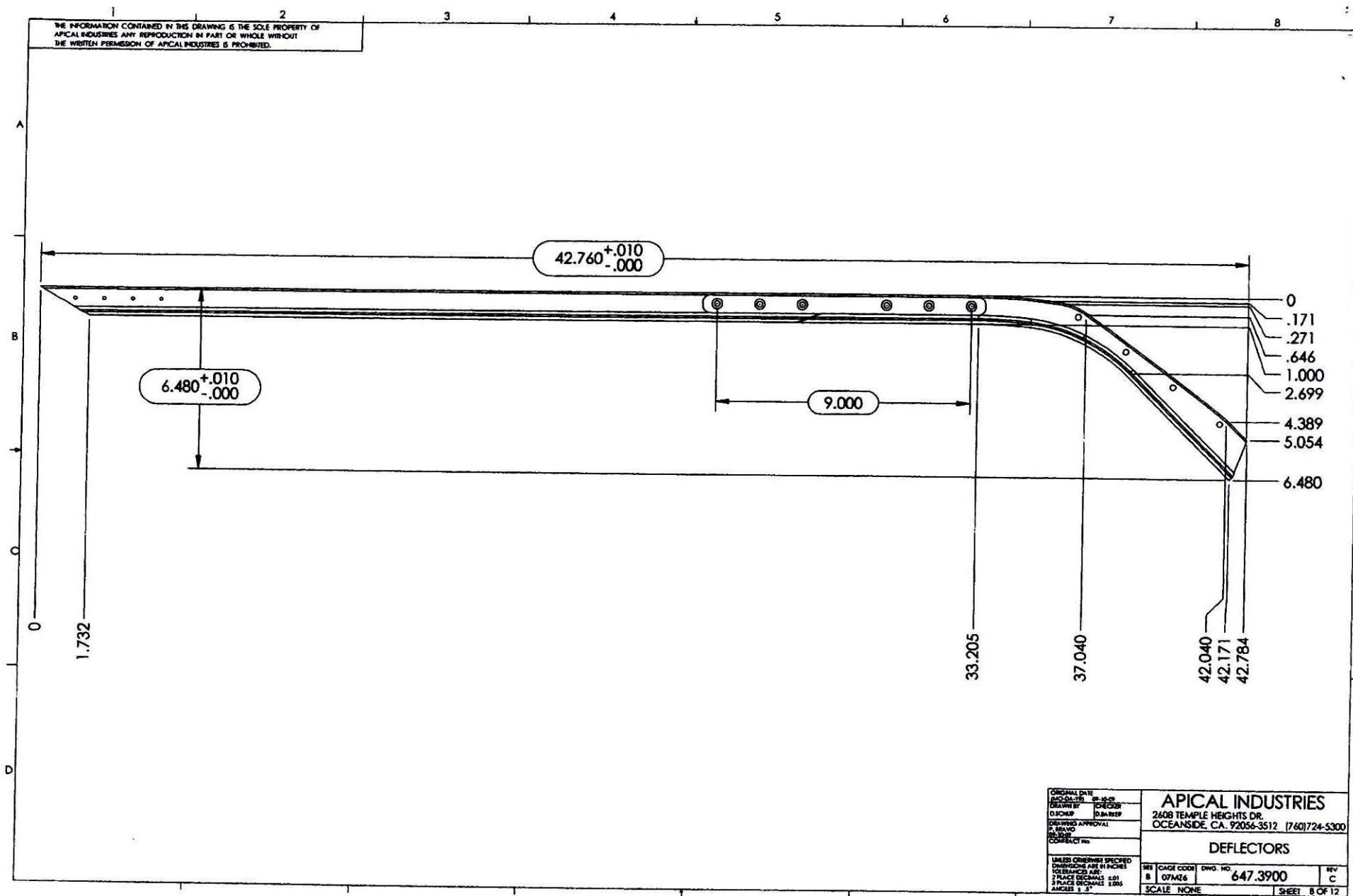


ORIGINAL DATE APR-84-15		BY CHICKE	
DRAWN BY DANKEP		CHECKED DANKEP	
DESIGNED APPROVAL P. MIAVO		CONTRACT NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .001 3 PLACE DECIMALS .0005 ANGLES ± .5°		SERIAL CODE B 071426	DWG. NO. 647.3900
SCALE NONE		REV. C	SHEET 7 OF 12

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

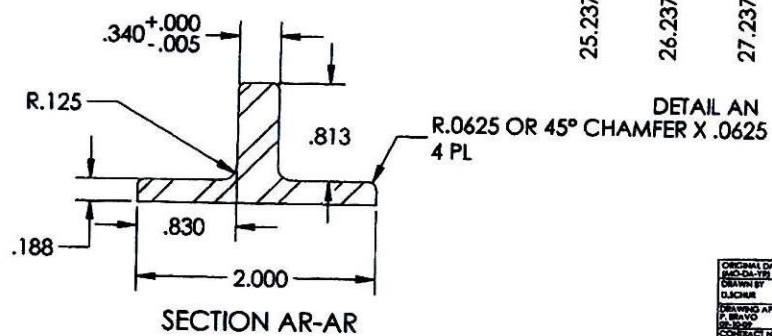
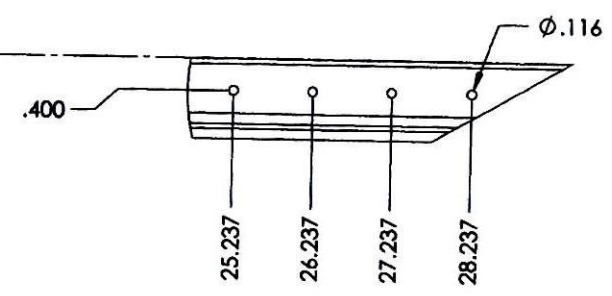
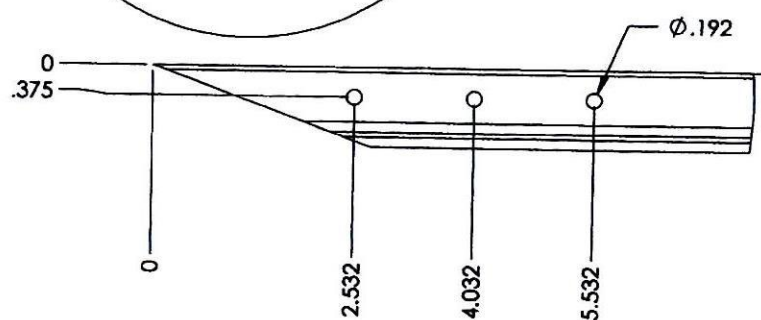
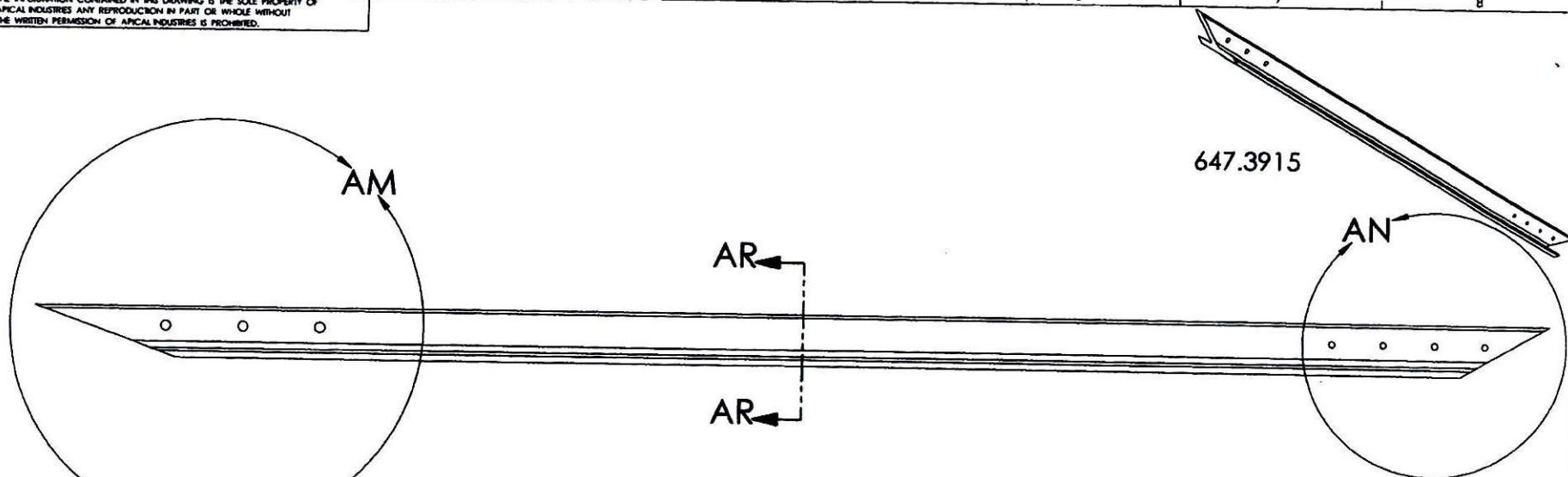
DEFLECTORS

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
APICAL INDUSTRIES ANY REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



1 2 3 4 5 6 7 8

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



ORIGINAL DATE (AND CH-175) 08-10-88		APICAL INDUSTRIES	
DRAWN BY CJ/MCH	CHECKED CJ/MCH	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL (P. 10-10-88)		DEFLECTORS	
CONTRACT NO.		SEE CAGE CODE B 07M216	REV. C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		DWG. NO. 647.3900	SHEET 9 OF 12
		SCALE NONE	

1 2 3 4 5 6 7 8

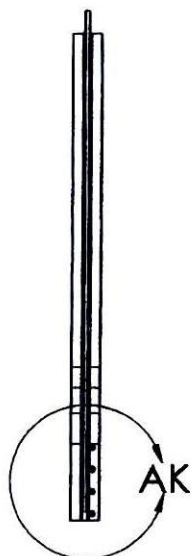
A

B

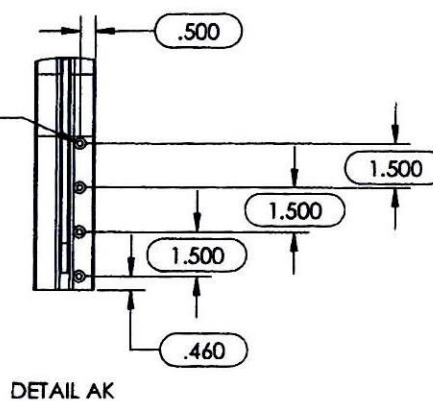
C

D

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



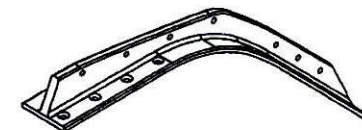
4X $\phi .196 \pm .010$ THRU ALL
 $\checkmark \phi .385 \pm .020 \times 100^\circ \pm 1.000^\circ$



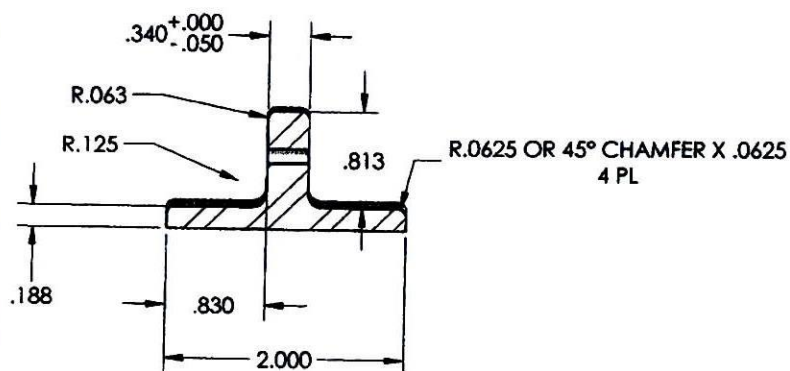
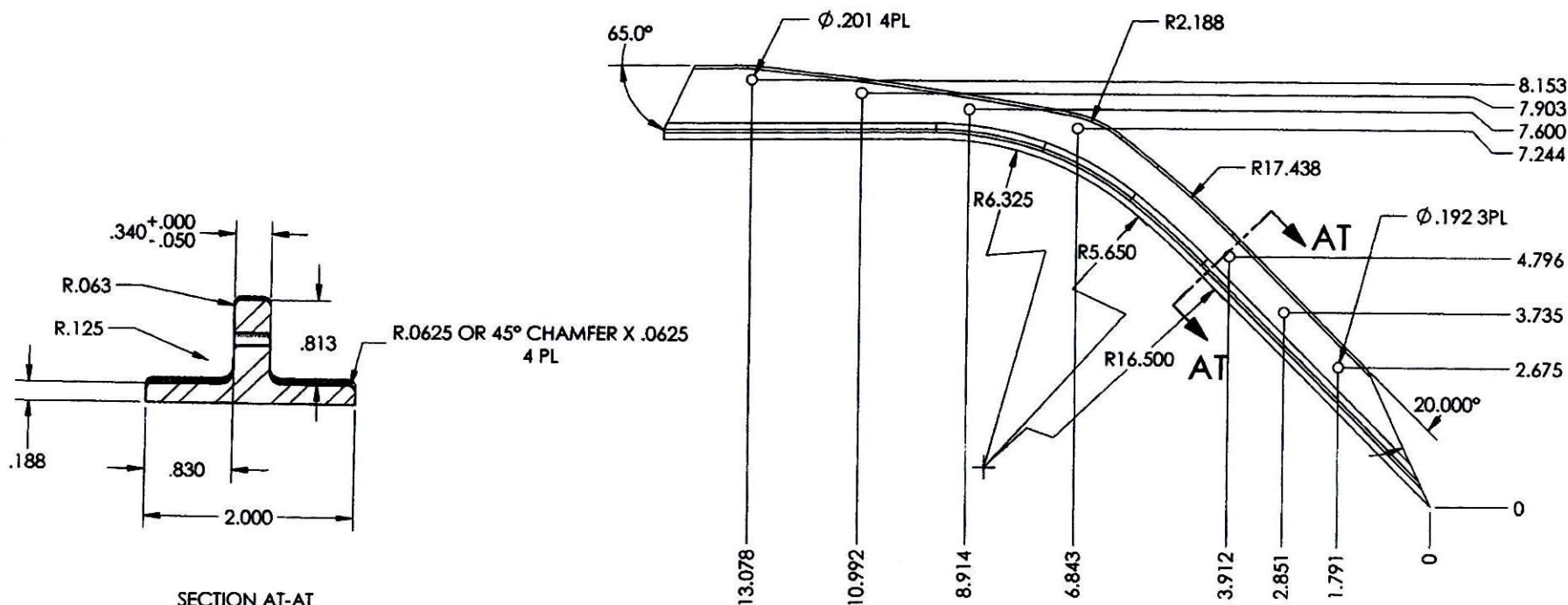
647.3915

ORIGINAL DATE 8-10-08		APICAL INDUSTRIES	
DRAWN BY C. CHURCH		2608 TEMPLE HEIGHTS DR.	
CHECKED BY D. HANSEN		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
DATE 8-10-08		SHEET 10 OF 12	
CONTRACT NO.		SCALE NONE	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. PLACE DECIMALS ±.01 2. PLACE DECIMALS ±.005 ANGLES ±.5°		SERIAL B	REV. C
CAGE CODE 07M26		DWG. NO. 647.3900	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



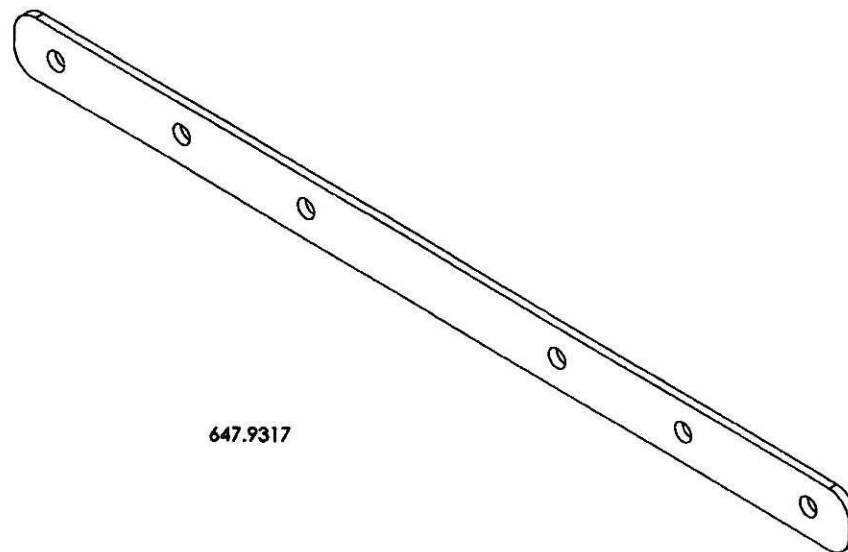
647.3916



SECTION AT-AT

ORIGINAL DATE 08-10-09		APICAL INDUSTRIES	
DRAWN BY C. C. C.		2608 TEMPLE HEIGHTS DR.	
CHECKED BY C. C. C.		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL C. C. C.		DEFLECTORS	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		REV. C	
SHEET B	CAGE CODE 07M26	DWG. NO. 647.3900	
SCALE NONE		SHEET 11 OF 12	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



R.250
4 PL

.625

0

.500

2.000

3.500

6.500

8.000

9.500

10.000

.090

Ø.196
6 PL

ORIGINAL DATE
REV. DATE
DESIGNED BY
CHECKED BY
DRAWING APPROVAL
P. BRAND
DATE
CONTRACT NO.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
3 PLACE DECIMALS ± .01
ANGLES ± .5°

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTORS

REV	CAGE CODE	DWG. NO.	REV.
B	07MA26	647.3900	C
SCALE NONE		SHEET 12 OF 12	

DART AEROSPACE LTD		Work Order:	
Description: Lower Deflector		Part Number:	647.3912
Inspection Dwg: 647.3900 Rev: C1		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
29.9°	+/-0.5°	30°	✓		Gaborit	
0.753	+/-0.005	.751	✓		Vernier	
0.130 x 45°	+/-0.005 x +/-0.5°	.130 x 45°	✓		Vernier	
0.380	+/-0.005	.375	✓		micrometre	
0.753	+/-0.005	.752	✓		Vernier	
0.340	+0.000/-0.002	.340	✓		micrometre	
0.100 x 45°	+/-0.005 x +/-0.5°	.105 x 45°	✓		Vernier	
0.350	+0.000/-0.002	.348	✓		micrometre	
0.271	+/-0.005	.271	✓		Vernier	
0.705	+/-0.005	.705	✓		Vernier	
1.533	+/-0.005	1.538	✓		Vernier	
0.749	+/-0.005	.751	✓		Vernier	
Ø0.194	+0.005/-0.001	.193 Ø	✓		Pin gauge	
0.065	+/-0.005	.065	✓			
0.133	+/-0.005					
7.422	+/-0.005	7.223	✓		high gauge	
Ø0.177	+0.005/-0.001	.177 Ø	✓		Pin gauge	
0.915	+/-0.005	.915	✓			
2.110	+/-0.002	2.111	✓		Vernier	
4.220	+/-0.002	4.222	✓		Vernier	
0.320	+/-0.005	.325	✓		high gauge	
33.4°	+/-0.5°	33.5°	✓		Gaborit	
43.7°	+/-0.5°	43.5°	✓		Gaborit	

Measured by: M.M	Audited by: J.M.L	Preliminary Approval:
Date: 2018/09/24	Date: 16/08/25	Date:

Rev	Date	Change	Revised by	Approved
A	14.09.16	New Issue	KJ	AA



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040871**

Supplier: ATG001-VC
A.T.G. Industries Inc
731 INDUSTRIELLE ROAD
ROCKLAND
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalande, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO040871
PO Date: 8/28/18
Due Date: 9/18/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	171196	647.3912	Breakaway Tip Wirestrike for Wire Strike Issue P/O to ATG : 1- Black Anodize as per Dwg 647.3900 2- PRIME AS PER DWG, SEE NOTE #9 Certification of Conformity is required	Firmed	-	9/7/18	16 pcs	0 pcs	16 pcs	\$12.85/pcs	\$205.60
2	178442	RB23007615- 21	Guide -Issue P/O to ATG: -ANODIZE COLOR BLACK, PER IAW MIL-A- 8625F TYPE 2 CLASS 2, Water sealant -Certificate of Conformity is required	Firmed	-	9/18/18	7 pcs	0 pcs	7 pcs	\$9.75/pcs	\$68.25

DAS
38
9-89

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	181077	D5237-1	Bracket : Various STC's Issue P/O to ATG: _____ ANODIZE COLOR BLACK, PER IAW MIL-A- 8625F TYPE 2 CLASS 2 Certification of Conformity is required Issue P/O to ATG: _____ ANODIZE COLOR BLACK, PER IAW MIL-A- 8625F TYPE 2 CLASS 2 Certification of Conformity is required	Firmed	-	9/18/18	8 pcs	0 pcs	8 pcs	\$9.75/pcs	\$78.00
4	181417	647.7911	Bracket Issue P/O to ATG: _____ AS PER MPP-172 SECTION 2.1, HARD ANODIZE COLOR BLACK, PER IAW MIL-A- 8625 TYPE 3 CLASS 2 AS PER MPP-172 SECTION 4.2, PRIME AS PER IAW MIL-PRF-23377 TYPE 1 CLASS N as per Dwg 647.7900 Certification of Conformity is required	Firmed	-	9/18/18	57 pcs	0 pcs	57 pcs	\$8.30/pcs	\$473.10
5	179149	646.3012	Lower Guide Issue P/O to ATG : _____ Hard Anodize, Color Black and Prime as per Dwg 646.3000	Firmed	-	9/18/18	20 pcs	0 pcs	20 pcs	\$21.30/pcs	\$426.00
Grand Total:											\$1,250.95

Order Notes

Order Notes**Procurement Quality Clauses**

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 9/4/18 2:32 PM dart.tsimiklis.chrisoula



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 915943

Date: 06-Sep-18

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chrisoula Tsimiklis
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		ATG Delivery	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
16 ea	Part: 647.3912 Breakaway Tip Hard Black Anodize per MIL-A-8625F, Type III, Class 2 Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied) Job: 23667	Rev: C PO: PO040871 Line: 1	DA: 38 9-88
7 each	Part: RB23007615-21 Guide Anodize per MIL-A-8625F, Type II, Class 2, Black, Water Sealant .0004-.0010" (.4 - 1 mils). Job: 23668	Rev: B PO: PO040871 Line: 2	
8 each	Part: D5237-1 Bracket Anodize per MIL-A-8625F, Type II, Class 2, Black, .0004-.0010" (.4 - 1 mils). Job: 23669	Rev: B PO: PO040871 Line: 3	
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: <u>6/9/18</u> Certified Signature: <u>[Signature]</u> Receiver Signature: _____ A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited. Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt. Made in Canada.			